An Introduction to the Climate Action Reserve and California Offsets

General Information Webinar
Thursday, March 1, 2012
10:00 AM PST

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Manager, Business Development
The Reserve: Background and History

- Nonprofit organization founded as the California Climate Action Registry by state legislation in 2001
  - Mission: to encourage actions to reduce emissions
    - By developing protocols to track GHG emissions and reductions and having those emissions verified and publicly reported
- Renamed and expanded in 2008
  - Mission remains to encourage actions to reduce emissions
The Reserve: At A Glance

- Headquartered in Los Angeles
- 501(c)3 nonprofit organization
- 27 full time staff
- Registry software system built and maintained by NYSE Blue
- Annual Budget: $3.7 Million
Board of Directors

- Linda Adams, California EPA (ret.) - Chairman of the Board
- Peter Miller, NRDC – Board Secretary
- Jeff Kightlinger, Metropolitan Water District – Board Treasurer
- Randy Armstrong, Shell Oil Company
- Steve Corneli, NRG Energy
- Cynthia Cory, California Farm Bureau Federation
- Dr. Francisco Barnes, National Institute of Ecology (Mexico)
- Peter Liu, New Resource Bank
- James Mack, British Columbia Ministry of Environment (Canada)
- Nancy McFadden, Office of the Governor of California
- Betsy Moler, Federal Energy Regulatory Commission (ret.)
- Tim Profeta, Nicholas Institute at Duke University
- Jan Schori, Sacramento Municipal Utility District (ret.)
- Stephan Schwartzman, Environmental Defense Fund
- Jason Clay, World Wildlife Fund (WWF)
Our Principle Objectives

• Ensure that emission reduction credits (offsets) have true environmental integrity
• Show that carbon offsets can be a useful tool in addressing climate change
• Provide a offset registry that is rigorous while streamlined and user-friendly
• Link voluntary carbon markets with emerging compliance markets (CA C&T, WCI, RGGI…)
• Provide expertise on offset standards and policy
Offset Integrity

• **Real**
  – Can be measured to a high degree of accuracy
  – Is based on an activity that has occurred, not one that is projected to occur in the future

• **Additional**
  – Occurs outside of any regulatory requirement
  – Would not have occurred but for the incentive provided by a GHG market

• **Verifiable**
  – Can be (and has been) independently verified

• **Enforceable**
  – Ownership is undisputed and enforcement mechanisms exist to ensure all program rules are followed

• **Permanent**
  – Is removed from the atmosphere for a minimum of 100 years
What We Do

1. Develop High Quality Standards
   - Convene stakeholders and lead development of standardized protocols for carbon offset projects

2. Manage Independent Third Party Verification
   - Training and oversight of independent verification bodies

3. Operate a Transparent Registry System
   - Ensure ownership to emission reductions
   - Maintain a public registry of approved projects
   - Issue and track serialized credits generated by projects
What makes the Reserve different?

Recognition

Recognized and Supported by:

- California Air Resources Board
- States of Pennsylvania and New Mexico
- Verified Carbon Standard (VCS)
- Leading environmental organizations:
  - Environment America
  - Natural Resources Defense Council (NRDC)
  - Environmental Defense Fund
  - Sierra Club
  - Wilderness Society
What makes the Reserve different?

Transparency

- Unparalleled transparency makes the Reserve unique
- Public reports include:
  - All protocols and associated documents
  - List of all account-holders
  - List of all projects and all project documents
  - List of all issued CRTs for every project
  - All retired CRTs
What makes the Reserve different?

**Performance Standard**

- Why a performance standard is different
  - The hard work is upfront
  - Assess industry practice as a whole, rather than individual project activities
- Minimize transaction costs
- More certainty in amount of credits
- Lower risk for developers and investors
- Faster project processing
What makes the Reserve different?

**Separation of Roles**

- Is not affiliated with the State of California
- Reserve does not fund or develop projects
- Does not take ownership of offsets
- Is not an exchange
- Is a 501(c)3 not-for-profit organization
- Independent third-party verification
  - Consistent with international standards
  - Accreditation done by ANSI
  - Assiduous oversight of verifiers
What makes the Reserve different?

Linking Multiple Markets

• CRTs are purchased by buyers in different markets for a variety of reasons
• Primary market is California cap-and-trade buyers
• Western Climate Initiative
• CEQA compliance
• Voluntary corporate buyers
• LEED Certification (USGBC)
• Retailers/Voluntary buyers
Protocol Development

• Broad public input, sector-specific work groups

• Goal is to create a uniform standard that is widely recognized and builds on best practice
  – We incorporate the best elements of other protocols
  – We do not adopt methodologies from other sources (i.e. CDM, Gold Standard, VCS, project developers, etc.)

• Designed as step-by-step instructions on project implementation
Current Protocols

- Forestry (Reforestation, Improved Forest Management, Avoided Conversion)
- Urban Forestry
- Livestock Methane Capture
- Ozone Depleting Substances (US)
  - Landfill Gas Capture
  - Organic Waste Digestion
  - Coal Mine Methane
  - Nitric Acid Production
  - Organic Waste Composting
  - Rice Cultivation

CARB Approved
Compliance Protocols

- **Forestry**: biological sequestration in forests for 100 years
  - Improved Forest Management
  - Reforestation
  - Avoided Conversion
- **Urban Forestry**: sequestration in urban tree plantings for 100 years
- **Livestock**: capture and destruction of methane from manure using anaerobic digestion
- **ODS**: destruction of potent GHGs from appliances and foams from U.S. sources
Protocols In Progress

• Forestry Project Protocol (Mexico)
  • following a nested REDD+ approach

• Agriculture
  – Nitrogen Management
  – Cropland Management

• Others Under Consideration
  – Energy Efficiency and Renewables in Mexico
  – Adaptation to Canada
## Reserve Stats

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRTs registered</td>
<td>21.7 million</td>
</tr>
<tr>
<td>CRTs retired</td>
<td>3.4 million (15.6%)</td>
</tr>
<tr>
<td>Account holders</td>
<td>402</td>
</tr>
<tr>
<td>Projects submitted</td>
<td>490</td>
</tr>
<tr>
<td>Registered</td>
<td>123</td>
</tr>
<tr>
<td>U.S. States with Projects</td>
<td>45</td>
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</tbody>
</table>
CRTs by Project Type

Total CRTs Registered by Project Type

- Landfill: 3328975
- Livestock: 145639
- Conservation-Based Forest Management/IFM: 316838
- Avoided Conversion: 2541231
- Nitric Acid Production: 8162453
- Coal Mine Methane: 495981
- Ozone Depleting Substances -US: 3837701
- Ozone Depleting Substances- Article 5: 2836299
- Organic Waste Digestion: 44457
How it Works: The Reserve Process

1. Open an account
2. Submit project
3. Reduce emissions
4. Verify the reductions

Registered CRTs issued

Hold, sell, or retire CRTs
## Carbon Market Participants

<table>
<thead>
<tr>
<th>Emitters</th>
<th>Finance</th>
<th>Oversight</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Voluntary buyers of credits</td>
<td>• Project developers</td>
<td>• Standards development</td>
</tr>
<tr>
<td>• Compliance buyers of credits</td>
<td>• Brokers</td>
<td>• Registries</td>
</tr>
<tr>
<td>• Generators of credits (sources of emissions reductions)</td>
<td>• Retailers</td>
<td>• Regulatory Agencies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Verification bodies</td>
</tr>
</tbody>
</table>

### EXAMPLES
- Pacific Gas & Electric
- United Parcel Service
- News Corporation
- Dairy farmers
- Forest owners
- Municipalities

- TerraPass
- The Climate Trust
- Evolution Markets
- 3Degrees
- Blue Source
- Element Markets

### EXAMPLES
- Climate Action Reserve
- Verified Carbon Standard
- California Air Resources Board
- Scientific Certification Systems
Verification Process

- Verification bodies (VBs) must get accredited to ISO standards by American National Standards Institute (ANSI)
- Lead Verifiers must take protocol-specific and general Reserve training and demonstrate competency
- VB submits NOVA/COI form and if approved proceeds to verification activities
- Developer hires an accredited and trained VB
  - VB assesses project and documentation and makes determination as to the accuracy of reported CRTs
  - Project documents, verification report and verification opinion submitted to the Reserve for review and approval
Buying & Selling CRTs

• Must have an account with the Reserve to hold CRTs
• No financial transactions within the system, only transfers between accounts
  – Not a trading exchange for spot transactions
• Forward sales are very common
• How to trade?
  – Purchase directly from a project developer
  – Purchase through a Trader/Broker/Retailer
  – Purchase futures on an exchange
Fee Structure

Account Maintenance: $500/year
Project Listing: $500/project
CRT Issuance: $0.20/tonne
CRT Transfer: $0.03/tonne
Retirement: Free
Cap-and-Trade in California

- AB32 passed in 2006
  - Basic CA law on climate – Reduce to 1990 baseline by 2020
- Final Cap-and-trade regulation adopted by California Air Resources Board in October 20, 2011
- Program begins Jan 1, 2013 and runs through 2020
- Divided into three compliance periods
  - Narrow scope for 1st period: ~ 600 largest industrial sources
    - First compliance deadline: November 1, 2014
  - Broad scope beginning Jan 1, 2015
Role of Offsets in California Cap and Trade Program

- Four Climate Action Reserve project protocols have been adopted by ARB
  - Others to be considered in late-2012
- The Reserve expects to be formally approved by ARB as an Offset Registry
- Early-Action Offsets
  - Projects under four approved protocols of vintages 2005-2014, listed by February 2015
  - Must go through additional desk verification
Offsets for Compliance

• Compliance obligation can be fulfilled with a mix of allowances and offsets

• Up to 8% of compliance obligation can be fulfilled with offsets
  – Example: If your emissions are 1 million mtCO$_2$e, then you can use up to 80,000 offsets for that period
  – Offsets can only come from projects under approved protocols

• Project must be registered with CARB or a CARB-approved registry
  – If registered with a registry, then credits must be retired/canceled and reissued by CARB
## California Carbon Market

<table>
<thead>
<tr>
<th>Compliance Period</th>
<th>Year</th>
<th>Allowance Budget (mt CO$_2$e)</th>
<th>Total Offset Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First</strong> (narrow scope)</td>
<td>2013</td>
<td>162,800,000</td>
<td>26,800,000</td>
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<tr>
<td></td>
<td>2014</td>
<td>159,700,000</td>
<td></td>
</tr>
<tr>
<td><strong>Second</strong> (broad scope)</td>
<td>2015</td>
<td>394,500,000</td>
<td>91,784,000</td>
</tr>
<tr>
<td></td>
<td>2016</td>
<td>382,400,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>370,400,000</td>
<td></td>
</tr>
<tr>
<td><strong>Third</strong></td>
<td>2018</td>
<td>358,300,000</td>
<td>83,104,000</td>
</tr>
<tr>
<td></td>
<td>2019</td>
<td>346,300,000</td>
<td></td>
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<tr>
<td></td>
<td>2020</td>
<td>334,200,000</td>
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Pricing for California Compliance Instruments

Sources: BGC, Green Exchange, and Finite Carbon
California Cap-and-Trade: Remaining Issues

Buyer Liability for Invalidation

• Invalidation will occur if:
  – Amount of credits is overstated by more than 5%
  – Legal/Regulatory non-compliance
  – Double-counting: listed in another registry for same period

• CARB will remove the invalidated offsets from the account where they are currently located, whether retired or active
  – Exception(s): Forestry credits will be replaced by Project Developer
Buyer Liability - Time Frame

CARB can find credits invalid within eight years with the following exceptions:

• CRTs from Livestock, Forest and Urban Forest Projects
  – Liability is only three years if the project is verified by a second verifier within three years.

• CRTs from ODS Projects*
  – Liability is only three years if it is re-verified by a second verifier within that time.

*ODS projects have only a one-year crediting period
Program Implementation & Key Dates

Adoption of Additional Protocols – WCI Development

Allowance Auctions:
• August 15, 2012: 1st Auction
• November 14, 2012: 2nd Auction

CARB Workshops & Board Hearings
• Spring 2012: WCI Linkage, Offsets
• Fall 2012: Board Hearing to consider Cap-and-Trade amendments for linkage
• Fall 2012: Board consideration of new offset protocols
Upcoming Events

Webinars:
• Legal Issues of AB32 Webinar, March 14th
  – Register Online: http://events.climateactionreserve.org

Workshops:
• BC3 Offsets Workshop, San Francisco, March 15th
• Got Manure Carbon Management Workshop
  – Syracuse, NY – March 27th
• Reserve 101 – CA Compliance Workshop
  – San Francisco, CA - April 10th

Annual Conference: Navigating the American Carbon World 2012
• April 10-12 2012, San Francisco, CA
• www.NACW2012.com
Questions?
Contact Information

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